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HOGAN & HARTSON LLP
ONE TABOR CENTER, SUITE 1500
1200 SEVENTEENTH ST
DENVER, CO 80202

EXAMINER	
NORTON, JENNIFER L	
ART UNIT	**PAPER NUMBER**
2121	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

ck

Office Action Summary	Application No.	Applicant(s)
	10/670,173	MOSELLI ET AL.
	Examiner	**Art Unit**
	Jennifer L. Norton	2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 09 February 2006.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-10,14-19 and 21 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-10,14-19 and 21 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 26 October 2005 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. The following is a Final Office Action in response to the Amendment received on February 9, 2006. Claims 11-12 and 20 have been cancelled. Claims 1-10, 14-19 and 21 remain pending.

Specification

2. The amendment to the specification was received on February 9, 2006. The corrections are not accepted.

3. The disclosure is objected to because of the following informalities: The priority to European Application 02425609.1 is indicated as October 9, 2006 on the amendment received on February 9, 2006, which is incorrect. The priority date of European Application 02425609.1 is October 9, 2002 as indicated on Foreign Priority Documents received on December 30, 2003.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The amendment to the claims was received on February 9, 2006. The amendment to the claims 1, 5, 9 and 18 are acceptable. The rejection to claims 1-9, 10-12 and 15-20 are withdrawn.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 14 recites the limitation "the deviation" in line 2. There is insufficient antecedent basis for this limitation in the claim.

7. Claims 13 and 21 recite the limitations:

"the current" in line 4

"the quantity" in line 5

"the temperature" in line 6

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-7, 9-10, 13-19 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No.: 6,582,841 (hereinafter Okamoto) in view of U.S. Patent No. 5,197,114 (hereinafter Sheirik).

10. As per claim 1, Okamoto teaches to an arrangement for controlling a system according to the a deviation between the an actual value measured on the system and the a value estimated by means of a model of the controlled system of at least one control parameter, the arrangement comprising:

a neural network, which generates the an estimation of said control parameter implementing said model as a function of a set of characteristic parameters of the controlled system and of respective configuration parameters of the neural network (col. 8, lines 29-33),

an acquisition module (Fig. 1, element 30, 34, 38 and 40) for acquiring the actual value, as measured on the controlled system (Fig. 1 30a, 34a, 38a, and 40a), of a set of sensing parameters comprising at least one from among said control parameter and said characteristic parameters of the controlled system (col. 4, lines 25-32 and 36-52);

wherein said controlled system comprises at least one fuel cell (col. 4, lines 4-14 and Fig. 1, element 20).

Okamoto does not expressly teach said neural network having associated thereto a training module, which can train said neural network by modifying said configuration parameters according to a set of updating data,

a variation module, which is sensitive to the variation of said control parameter and is able to generate an update-enable signal when said control parameter falls outside a pre-set tolerance range,

said acquisition module being sensitive to said update-enable signal for transferring to said training module, as said updating-data set, said set of sensing parameters,

said at least one control parameter is represented by a voltage generated by said at least one fuel cell.

Sheirik teaches to a training module (Fig. 34), which can train said neural network by modifying said configuration parameters according to a set of updating data (col. 13, lines 1-13 and 24-34),

a variation module (Fig. 34, element 3404), which is sensitive to the variation of said control parameter and is able to generate an update-enable signal (col. 21, lines 53-57) when said control parameter falls outside a pre-set tolerance range (col. 21, lines 32-39),

said acquisition module being sensitive to said update-enable signal for transferring to said training module, as said updating-data set, said set of sensing parameters (col. 9, lines 12-13),

said at least one control parameter is represented by a voltage (Fig. 20, element 2002) generated by said at least one fuel cell (col. 7, lines 32-34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include a neural network having associated thereto a training module, which can train said neural network by modifying said configuration parameters according to a set of updating data, a variation module, which is sensitive to the variation of said control parameter and is able to generate an update-enable signal when said control parameter falls outside a pre-set tolerance range, said acquisition module being sensitive to said update-enable signal for transferring to said training module, as said updating-data set, said set of sensing parameters and at least one control parameter is represented by a voltage generated by said at least one fuel cell to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, it reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

11. As per claim 2, Okamoto does not expressly teach a truncation module for truncating the actual value of at least some of said characteristic parameters of the controlled system.

Sheirik teaches to a truncation module for truncating the actual value of at least some of said characteristic parameters of the controlled system (col. 21, lines 41-43).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include a truncation module for truncating the actual value of at least some of said characteristic parameters of the controlled system to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

12. As per claim 3, Okamoto teaches a memory (Fig. 2A, element A1, A2, A3 and A4 and Fig. 2B, element B1, B2, B3 and B4) for storage of at least one of the parameters of said set of sensing parameters (col. 5, lines 22-31 and col. 10, lines 42-47).

13. As per claim 4, Okamoto does not expressly teach a functional module for generating, according to the value of at least one of said characteristic parameters of the controlled system an address for storing said at least one control parameter.

Sheirik teaches to a functional module (Fig. 8, element 808-814) for generating, according to the value of at least one of said characteristic parameters of the controlled system an address for storing said at least one control parameter (col. 20, lines 50-54)

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include a functional module for generating, according to the value of at least one of said characteristic parameters of the controlled system an address for storing said at least one control parameter to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

14. As per claim 5, Okamoto does not expressly teach to an input network for verifying whether said actual value, as measured on said controlled system, of at least one of said characteristic parameters of the controlled system falls within an allowed range of variation.

Sheirik teaches to an input network (Fig. 32, element 3212, 3214 and 3216) for verifying whether said actual value, as measured on said controlled system, of at least one of said characteristic parameters of the controlled system falls within an allowed range of variation (col. 21, lines 32-39).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include an input network for verifying whether said actual value, as measured on said controlled system, of at least one of said characteristic parameters of the controlled system falls within an allowed range of variation to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

15. As per claim 6, Okamoto teaches a sample-and-hold module (Fig. 2A, element A1, A2, A3 and A11 and Fig. 2B, element B1, B2, B3, and B11) for acquiring the value of said control parameter (col. 8, lines 16-22).

16. As per claim 7, Okamoto does not expressly teach a restore module for restoring at least one parameter of the controlled system when said control parameter falls outside said pre-set tolerance range.

Sheirik teaches to a restore module for restoring at least one parameter of the controlled system when said control parameter falls outside said pre-set tolerance range (col. 21, lines 53-57).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include a restore module for restoring at least one parameter of the controlled system when said control parameter falls outside said pre-set tolerance range to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

17. As per claim 9, Okamoto does not expressly teach said variation module is configured to detect a deviation, with respect to said tolerance range, of the difference between the current value of said control parameter and the respective mean value.

Sheirik teaches to said variation module is configured to detect a deviation (Fig. 32, element 3216), with respect to said tolerance range, of the difference between the current value of said control parameter and the respective mean value (col. 21, lines 47-52).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include a said variation module configured to detect a deviation, with respect to said tolerance range, of the difference between the current value of said control parameter and the

respective mean value to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

18. As per claim 10, Okamoto does not expressly teach said variation module is configured for operating according to a plurality of values of said control parameter, by detecting when a given number of said values of said control parameter falls outside said pre-set tolerance range.

Sheirik teaches said variation module is configured for operating according to a plurality of values of said control parameter, by detecting when a given number of said values of said control parameter falls outside said pre-set tolerance range (col. 21, lines 32-39 and 53-57).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include a plurality of values of said control parameter, by detecting when a given number of said values of said control parameter falls outside said pre-set tolerance range to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-

51), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

19. As per claim 13, Okamoto does not expressly teach said characteristic parameters of the controlled system are chosen from the group consisting of:

the current generated by said at least on fuel cell,

the quantity of air supplied to said at least one fuel cell, and

the temperature of said at least one fuel cell.

Sheirik teaches to characteristic parameters of the controlled system are chosen from the group consisting of:

the current (Fig. 20, element 2002) generated by said at least on fuel cell,

the quantity (Fig. 20, element 2002) of air supplied to said at least one fuel cell, and

the temperature (Fig. 20, element 2002) of said at least one fuel cell (col. 7, lines 32-34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include characteristic parameters of the controlled system are chosen from the group consisting of: the current generated by said at least on fuel cell, the quantity of air

supplied to said at least one fuel cell, and the temperature of said at least one fuel cell to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

20. As per claim 14, Okamoto teaches a method for controlling a system according to the deviation between the an actual value measured on the system and the a value estimated by means of a model of the controlled system of at least one control parameter, the method comprising:

generating the estimation of said control parameter implementing said model as a function of a set of characteristic parameters of the controlled system and of respective configuration parameters (col. 8, lines 29-33);

acquiring an actual value (Fig. 1, element 30, 30a, 34, 34a, 38, 38a, 40 and 40a), as measured on the controlled system, of a set of sensing parameters comprising at least one from among said control parameter and said characteristic parameters of the controlled system (col. 4, lines 25-32 and 36-52); and

wherein said controlled system comprises at least one fuel cell (col. 4, lines 4-14 and Fig. 1, element 20).

Okamoto does not expressly teach modifying said configuration parameters according to a set of updating data and generating an update-enable signal when said control parameter falls outside a pre-set tolerance range and wherein said at least one control parameter is represented by a voltage generated by said at least one fuel cell.

Sheirik teaches to modifying said configuration parameters according to a set of updating data (col. 13, lines 1-13 and 24-31) and generating an update-enable signal when said control parameter falls outside a pre-set tolerance range (col. 21, lines 32-39 and 53-57 and col. 9, lines 12-13), and wherein said at least one control parameter is represented by a voltage (Fig. 20, element 2002) generated by said at least one fuel cell (col. 7, lines 32-34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include configuration parameters according to a set of updating data and generating an update-enable signal when said control parameter falls outside a pre-set tolerance range and at least one control parameter is represented by a voltage generated by said at least one fuel cell to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, reducing operator error,

increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

21. As per claim 15, Okamoto does not expressly teach truncating the actual value of at least some of said characteristic parameters of the controlled system.

Sheirik teaches truncating the actual value of at least some of said characteristic parameters of the controlled system (col. 21, lines 41-43).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include truncating the actual value of at least some of said characteristic parameters of the controlled system to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

22. As per claim 16, Okamoto does not teach verifying whether the actual value, as measured on said controlled system, of at least one of said characteristic parameters of the controlled system falls within an allowed range of variation.

Sheirik teaches to verifying whether the actual value, as measured on said controlled system, of at least one of said characteristic parameters of the controlled system falls within an allowed range of variation (col. 21, lines 32-39).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include verifying whether the actual value, as measured on said controlled system, of at least one of said characteristic parameters of the controlled system falls within an allowed range of variation to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

23. As per claim 17, Okamoto does not expressly teach restoring at least one parameter of the controlled system when said control parameter falls outside said pre-set tolerance range.

Sheirik teaches restoring at least one parameter of the controlled system when said control parameter falls outside said pre-set tolerance range (col. 21, lines 53-57).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of applicant's invention to modify the teaching of Okamoto to include restoring at least one parameter of the controlled system when said control parameter falls outside said pre-set tolerance range to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

24. As per claim 18, Okamoto does not expressly teach detecting the a deviation, with respect to said tolerance range, of the a difference between the a current value of said control parameter and the a respective mean value.

Sheirik teaches to a deviation, with respect to said tolerance range, of the a difference between the a current value of said control parameter and the a respective mean value (col. 21, liens 47-52).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include a deviation, with respect to said tolerance range, of the a difference between the a current value of said control parameter and the a respective mean value to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51),

in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

25. As per claim 19, Okamoto does not expressly teach operating according to a plurality of values of said control parameter, by detecting when a given number of said values of said control parameter falls outside said pre-set tolerance range.

Sheirik teaches to operating according to a plurality of values of said control parameter, by detecting when a given number of said values of said control parameter falls outside said pre-set tolerance range (col. 21, lines 30-39 and 53-57).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include a plurality of values of said control parameter, by detecting when a given number of said values of said control parameter falls outside said pre-set tolerance range to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

26. As per claim 21, Okamoto does not expressly teach characteristic parameters of the controlled system are chosen from the group consisting of:

the current generated by said at least on fuel cell,

the quantity of air supplied to said at least one fuel cell, and

the temperature of said at least one fuel cell.

Sheirik teaches to characteristic parameters of the controlled system are chosen from the group consisting of:

the current (Fig. 20, element 2002) generated by said at least on fuel cell,

the quantity (Fig. 20, element 2002) of air supplied to said at least one fuel cell, and

the temperature (Fig. 20, element 2002) of said at least one fuel cell (col. 7, lines 32-34).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Okamoto to include characteristic parameters of the controlled system are chosen from the group consisting of: the current generated by said at least on fuel cell, the quantity of air supplied to said at least one fuel cell, and the temperature of said at least one fuel cell to eliminate a human operator from real time control of the system (abstract and col. 5, lines 50-51), in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator (col. 9, lines 55-57).

27. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto in view of Sheirik in further view of U.S. Patent No. 5,165,100 (hereinafter Masuda).

28. As per claim 8, Okamoto in view of Sheirik does not expressly teach said variation module comprises a timer with a count which can be activated when said control parameter falls outside said pre-set tolerance range and wherein said variation module is configured for emitting said update-enable signal when, once the count of said timer is through, said control parameter remains outside said pre-set tolerance range.

Masuda teaches to the use of a controller to force functional circuits (Fig. 2) to become activated when said control parameter falls outside said pre-set tolerance range and wherein said variation module is configured for emitting said update-enable signal when, once the count of said timer is through, said control parameter remains outside said pre-set tolerance range (col. 10, lines 67-68 and col. 11, lines 1-38).

Therefore, it would be obvious to a person of ordinary skill in the art at the time of the applicant's invention to modify the teaching of Okamoto in view of Sheirik to include the circuit of Masuda to implement a timer with a count which can be activated when said control parameter falls outside said pre-set tolerance range and wherein said

variation module is configured for emitting said update-enable signal when, once the count of said timer is through, said control parameter remains outside said pre-set tolerance range to allow a neural network to be realized with an excellently high integration density (col. 2, lines 65-68 and col. 3, lines 1-2).

Response to Arguments

29. Applicant's arguments, see pgs. 7-8, filed February 9, 2006 with respect to claims 1-7, 9-10 and 14-19 under U.S.C. 102 (b) have been considered but are moot in view of the new ground(s) of rejection.

Claims 1-7, 9-10 and 14-19 are rejected under U.S.C. 103(a) as unpatentable over Okamoto in view Sheirik for reasons set forth above. Okamoto discloses (col. 4, lines 1-3 and lines 25-32 and Fig. 1, element 10 and 20), "a fuel cells system and method of controlling the same ... In Fig. 1, the fuel cell system 10 further includes ... and the fuel cell 20 to detect the temperature of the reformed gas...".

Okamoto discloses (col. 8, lines 29-33), the use of neural networks to generate estimations of the system, "the functions may also be prepared by using a non-linear process such as neural networks."

Okamoto discloses the use of neural networks in a fuel cell system and

anticipates the use of Sheirik. Motivation for combining Okamoto in view of Sheirik is disclosed in Sheirik (abstract, col. 5, lines 50-51 and col. 9, lines 55-57), "to eliminate a human operator from real time control of the system, in addition to, reducing operator error, increasing long-term process control consistency, and eliminating the cost of an operator".

30. Applicant's arguments, see pg. 8, filed February 9, 2006 with respect to claim 8 under U.S.C. 103 (a) has been considered but is moot in view of the new ground(s) of rejection.

Claims 8 is rejected under U.S.C. 103(a) as unpatentable over Okamoto in view Sheirik in further view of Masuda for reasons set forth above.

As stated above, Okamoto discloses a fuel cell system (Fig. 1, element 10) that includes a fuel cell (Fig. 1, element 20) can incorporate a neural network to generate estimations of the system (col. 8, lines 29-33).

Okamoto discloses the use of neural networks in a fuel cell system and anticipates the use of Sheirik. Motivation to combine Okamoto with Sheirik is disclosed in Sheirik (abstract, col. 5, lines 50-51 and col. 9, lines 55-57), "to eliminate a human operator from real time control of the system, in addition to, reducing operator error,

increasing long-term process control consistency, and eliminating the cost of an operator".

31. Applicant's arguments, see pgs. 8-10, filed February 9, 2006 with respect to claims 11-12 and 20 under U.S.C. 103 (a) are moot since claims have been cancelled. Claim 13 under U.S.C. 103 (a) has been considered but is moot in view of the new ground(s) of rejection.

The limitation of claim 13 has been disclosed in Okamoto in view of Sheirik, see MPEP 803.02.

32. Applicant's arguments, see pgs. 8-10 filed February 9, 2006 with respect to hindsight have been fully considered but they are not persuasive of in view of the new ground(s) of rejection.

33. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

34. Applicant's arguments, pg. 8-10 filed February 6, 2006 with respect to newly presented claim 21 have been fully considered but they are not persuasive.

The limitation of claim 21 has been disclosed in Okamoto in view of Sheirik, see MPEP 803.02.

Conclusion

35. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer L. Norton whose telephone number is 571-272-3694. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Knight
Supervisory Patent Examiner
Art Unit 2121